Water Supply Outlook For Washington

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

AS OF
FEB. 1, 1980

USDA SCS PORTLAND OR 1979

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

U.S. DEPARTMENT of AGRICULTURE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY
SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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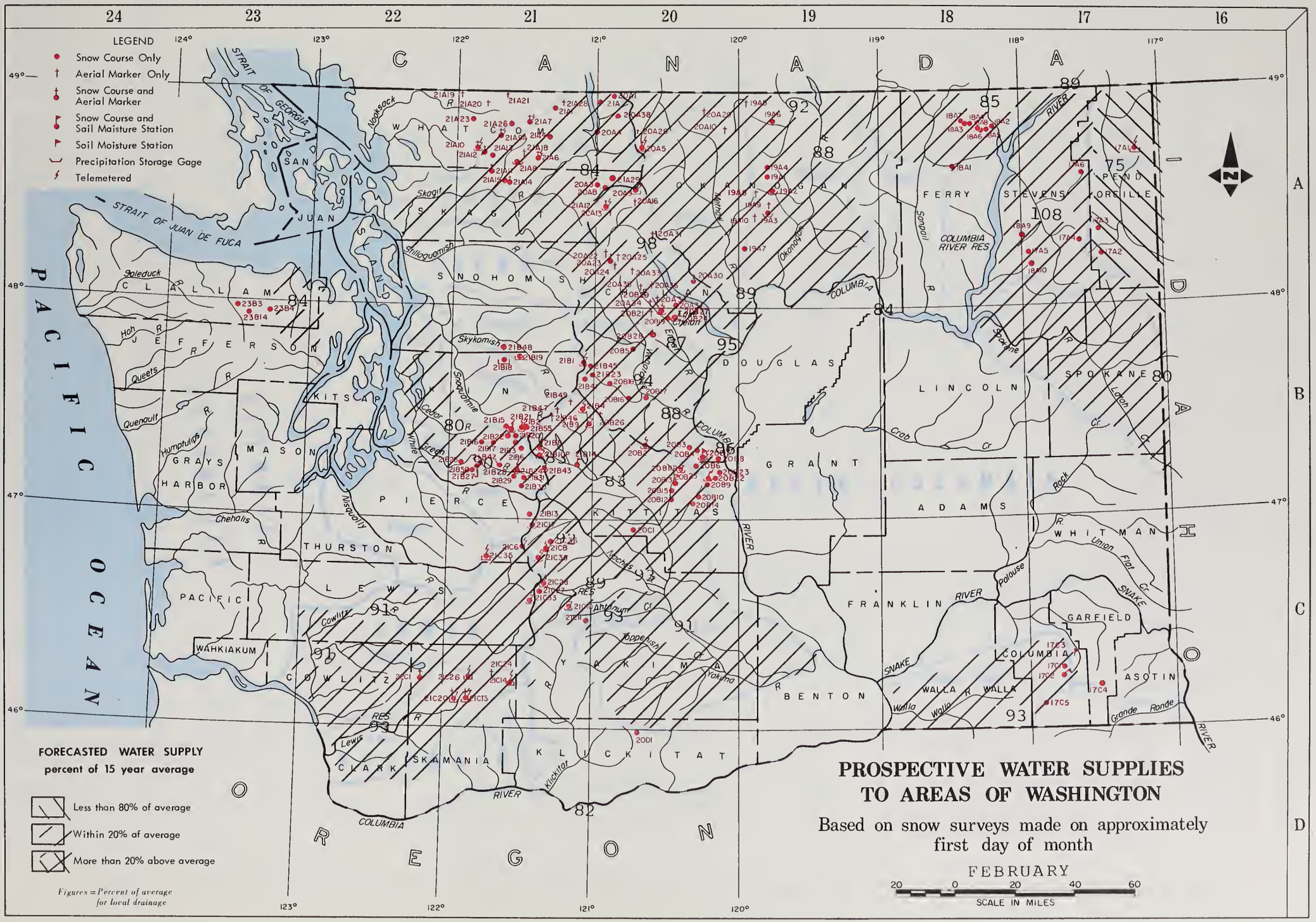

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mountoin	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
Kettle River					
Boulder Raad	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Cops Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600
Colville River					
Baird	17A6	19	36N	42E	3215
Carlsan	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountoin	17A5	26	31N	38E	4990
Togo	18A10	6	29N	38E	3370
Sanpoil River					
Sherman Creek Pass	18A1	19	36N	35E	5350
Okanogan River					
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvatian Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845
Methow River					
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Harseshae Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
Chelan Lake Basin					
Claudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500
Entiat River					
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadaws	20A33a	28	31N	17E	4540
Entiat River Troil	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenwarth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sond Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Calockum Creek					
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300
Squilchuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47o	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Asotin Creek					
Spruce Springs	17C4	9	8N	40E	5700
Tauchet River					
Couse	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Mortin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530
Klickitat River					
Satus Pass	20D1	21	6N	17E	4030

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lewis River					
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250
Cowlitz River					
Cayuse Pass	21C6	15	16N	10E	5300
Pigtoil Peak	21C33SP	11	13N	11E	5900
Patato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Nisqually River					
Paradise Park (New)	21C35SP	13	15N	8E	5500
White River					
Corral Poss	21B13SP	30	18N	11E	6000
Green River					
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cobin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gordner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400
Snoquolmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700
Skykomish River					
Lake Elizabeth	21B19P	33	26N	10E	2900

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Gronite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200
Baker River					
Dock Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Maunt Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500
Nooksack River					
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glocier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dungeness River					
Deer Pork	23B4	1	28N	5W	5200
Morse Creek					
Cox Volley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A7p	Precipitation Storage Gage
21A7SP	Snow Pillow

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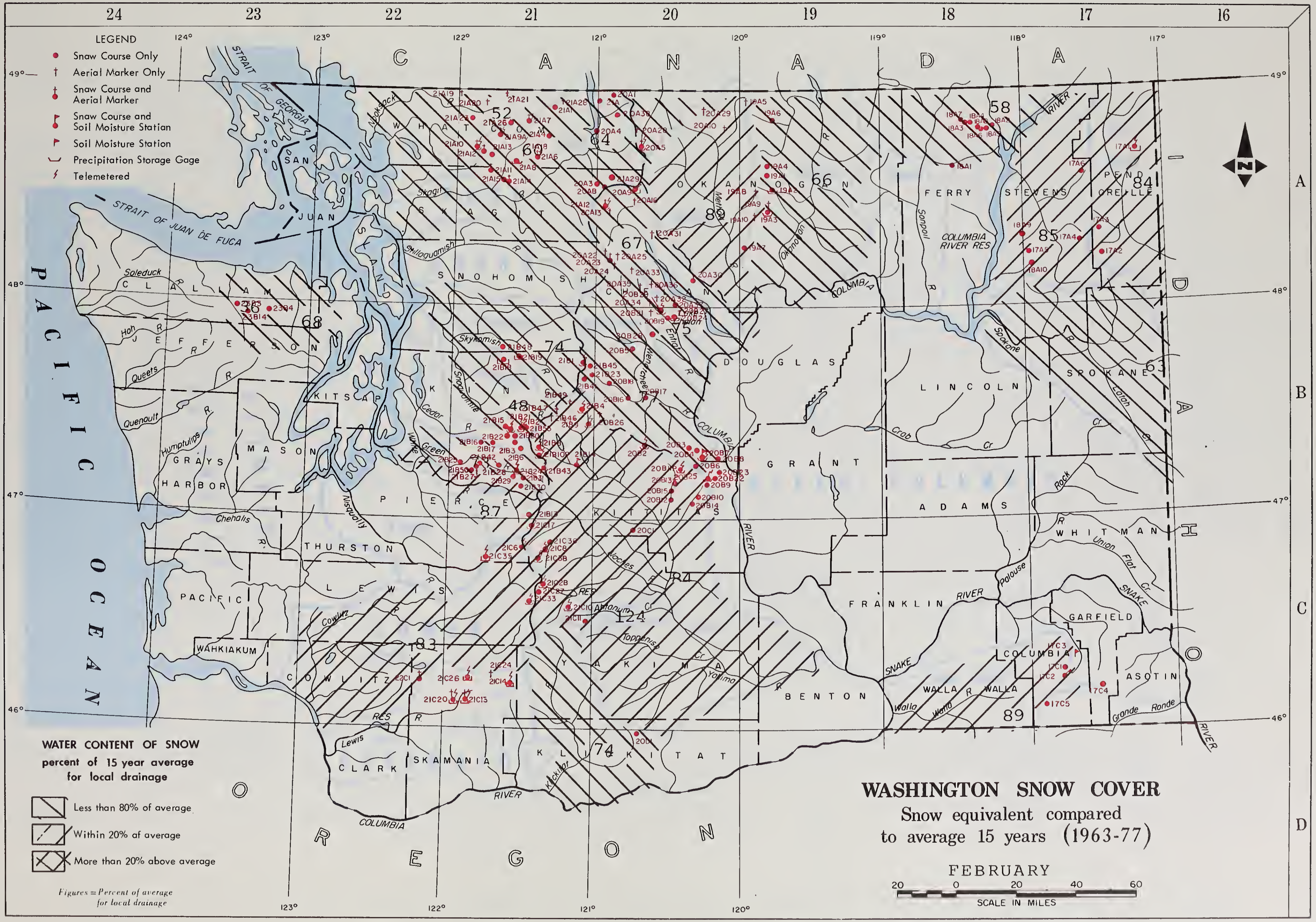

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UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Colville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Togo	18A10	6	29N	38E	3370

Sanpoil River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanogan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Touts Coulee	19A6	30	39N	25E	2845

Methow River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650

Chelon Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Claudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Troil	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Poss No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	15N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Comp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47o	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Wolters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asotin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Couse	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cowlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corral Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stompede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snoqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Ollollie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	3700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Duck Butte	21A11A	8	36N	8E	3800
Eosy Poss	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lake:	21A8P	25	37N	9E	4500

Nooksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountoin	21A19a	7	40N	7E	4400
Conyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Ponoramo New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricone	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A.p	Precipitation Storage Gage
21A7SP	Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington

February 1, 1980

* *

The situation in the state of Washington is not unlike that which we had two years ago. Our snow packs are not as good as they were in 1978 and the expected water supplies, likewise, are not as good; but it is much improved from last year and things are even looking up from the preliminary reports of last month. Valley rainfall was above average in Northeastern, Southeastern, and Central Washington, as reported by the National Weather Service this last month, but the accumulation of winter precipitation, from November through January, is only above normal in the central portion of the state. The snow that fell during the winter, to date, indicates only one of the reporting drainage division areas to have above normal snow packs; and this, a small drainage area in the Central Yakima Project, Ahtanum Creek. All other basins have below normal snow cover that ranges down to a low of 36 percent of normal for the Elwha Drainage in the Olympic Peninsula. Water supply forecasts prepared by the Soil Conservation Service and the National Weather Service are for expected April-September flows that range from 75 percent of normal for the Pend Oreille River, as measured below Box Canyon, to a high of 95 percent of normal for the American River, as measured near Nile. As it now stands, with normal precipitation, both in the form of snow and rain, for the rest of the winter and spring months, an adequate water supply should be experienced in all areas. If we do not receive this normal rainfall amount, these forecasts will be reduced and the situation could become somewhat critical in some areas.

* *

SNOW COVER

In the Upper Columbia Basin of Washington and in tributary areas, the snow pack ranges from a low of 58 percent of normal on the Kettle River, draining out of British Columbia, to a high of 24 percent above normal on the Ahtanum. The majority of basins in this area have a snow pack averaging 75 percent of normal. The situation compared to last year is considerably better, but not as good as occurred in 1978. Only three basins are sampled in the Lower Columbia Drainage, and these three have a snow pack that is near 80 percent of average, and when compared to last year - considerably better, except for Mill Creek. Puget Sound Drainage has a snow pack that ranges from 48 percent of average on the Snoqualmie Drainage to a high of 87 percent on the White. The average snow water equivalent in this area is approximately 75 percent of normal. Only two basins in the Olympic Peninsula are sampled, and these have a snow pack 36 percent of normal for the Elwha River and 68 percent for the Dungeness. Both are sampled by only one snow course each.

RESERVOIRS

The amount of water stored in the irrigation reservoirs as of February 1, is above average only in the Bumping Reservoir, Lake Cle Elum, and Salmon Lake. Bumping Reservoir has 18 percent above normal amounts of water in storage and Salmon Lake has 9 percent above. The Cle Elum Reservoir, which is still closed for repair, has 39 percent above normal amounts of water in storage. The power reservoirs have less than normal amounts of water in storage as of February 1, as a result of early winter drawdown to meet the power needs of the state. Currently, the forecasted inflow to these reservoirs is enough for them to fill with the spring runoff barring unforeseen drawdown or subnormal conditions subsequent to this date.

PRECIPITATION

Rainfall during January was both good and bad. As stated above, above normal precipitation occurred in Northeastern, Southeastern, and Central Washington, with these locations experiencing 17, 29, and 56 percent above normal, respectively. In the Upper Columbia, rainfall has been above normal only in two of the five months and the good precipitation of December in this area had a dramatic turn around during January. In the Pend Oreille-Spokane Drainage, rainfall has been consistently below normal for the past four months. In Northeastern Washington, rainfall for the winter period has improved to 86 percent of average as has the Northwest Slopes of the Cascades; but we need normal conditions for the rest of the winter and spring season to assure us of an adequate water supply for both power and irrigation.

STREAMFLOW

January streamflow was subnormal in all river basins in the state. The low elevation rivers such as the Palouse and the Green had the least amount of water while the rest averaged 60 to 70 percent of normal. Cold weather this past month has reduced the streamflow considerably and has markedly affected some of the basins' outflow. Forecasts for streamflow are for 82 to 89 percent of normal on the Columbia mainstream, 75 percent on the Pend Orille River, and 85 to 108 percent in the Kettle-Colville Drainage. Spokane outflow is expected to be near 80 percent and in the Okanogan-Methow 88 to 92 percent of normal. The Chelan-Wenatchee is expected to have from 88 to 95 percent normal runoff, and in the Yakima, from 83 to 95 percent normal outflows. Forecasts along the Lower Columbia tributaries are for flows from 91 to 93 percent of normal and Puget Sound Drainages range from 80 to 90 percent of normal. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1980

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	% 15-yr. Avg.	Fore-cast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	40700	89	Apr-Sept	34484	44008	31562	45502
at Birchbank 1/	31900	88	Apr-July	27181	34030	23812	36353
	22000	84	Apr-June	19661	24082	18026	26194
Columbia River	57400	84	Apr-Sept	52769	66868	41056	68012
at Grand Coulee 1/	48000	84	Apr-July	44096	54559	32018	57035
	35500	80	Apr-June	35138	41585	25623	44273
Columbia River	63500	86	Apr-Sept	55298	72892	43415	73935
bl. Rock Island Dam 1/	52500	84	Apr-July	46700	60163	34253	62462
	40200	83	Apr-June	37453	46242	27563	48489
Columbia River	84700	82	Apr-Sept	76843	101055	54092	103493
at The Dalles, OR 1/	71000	80	Apr-July	65758	84815	42940	88519
	57000	80	Apr-June	55016	67353	35524	71237
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	11700	75	Apr-Sept	11639	15581	4130	15950
bl. Box Canyon	11000	75	Apr-July	11095	14080	2715	14690
	8800	75	Apr-June	10217	11750	2261	11760
KETTLE RIVER SYSTEM							
Kettle River	1575	85	Apr-Sept	1265	2056	1145	1846
nr. Laurier	1490	85	Apr-July	1211	1877	1105	1754
	1325	83	Apr-June	1137	1686	1037	1588
Colville River	145	108	Apr-Sept		138	26	134
at Kettle Falls	135	110	Apr-July		125	22	123
	125	109	Apr-June		117	20	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
SPOKANE RIVER SYSTEM **							
Spokane River	2290	80	Apr-Sept	2809	2427	-	2910
at Post Falls, ID 2/	2200	80	Apr-July	2757	2330	-	2733
	2100	81	Apr-June	2678	2119	-	2600
OKANOGAN RIVER SYSTEM							
Similkameen River	1390	92	Apr-Sept	870	1505	645	1517
nr. Nighthawk	1275	90	Apr-July	809	1365	605	1417
	1070	90	Apr-June	726	1170	547	1192
Okanogan River	1510	88	Apr-Sept	911	1690	708	1719
nr. Tonasket	1345	86	Apr-July	830	1500	644	1565
	1120	86	Apr-June	738	1286	583	1305
METHOW RIVER SYSTEM							
Methow River	900	89	Apr-Sept		1174	280	1011
nr. Pateros	845	90	Apr-July		1058	246	937
	710	90	Apr-June		876	217	791
CHELAN RIVER SYSTEM							
Chelan River	1175	95	Apr-Sept	753	1335	599	1237
at Chelan 3/	1035	96	Apr-July	663	1164	481	1080
	810	97	Apr-June	553	906	403	834
Stehekin River	865	98	Apr-Sept		888	494	883
at Stehekin	740	99	Apr-July		750	382	744
	560	100	Apr-June		563	311	557
Entiat	210	87	Apr-Sept		295	95	241
nr. Ardenvoir	195	89	Apr-July		268	81	218
	160	92	Apr-June		275	70	174
WENATCHEE RIVER SYSTEM							
Wenatchee River	1215	94	Apr-Sept		1311	633	1297
at Plain	1090	94	Apr-July		1171	542	1156
	840	93	Apr-June		945	479	903
Wenatchee River	1550	88	Apr-Sept	1204	1755	839	1767
at Peshastin	1430	90	Apr-July	1110	1576	730	1587
	1140	91	Apr-June	969	1275	653	1250
Stemilt Basin	130	94	May-Sept	-	-	-	138*
nr. Wenatchee							
Icicle Creek	315	85	Apr-Sept	-	-	-	371
nr. Leavenworth	295	87	Apr-July	-	-	-	342
	250	90	Apr-June	-	-	-	279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
YAKIMA RIVER SYSTEM							
Yakima River nr. Martin 4/	120	83	Apr-Sept	124	114	78	145
	110	83	Apr-July	114	101	67	133
	100	88	Apr-June	101	93	67	114
Yakima River at Cle Elum 5/	805	83	Apr-Sept	714	808	493	975
	735	83	Apr-July	683	696	416	883
	640	85	Apr-June	599	614	379	751
Yakima River nr. Parker 6/	1980	91	Apr-Sept	1388	1977	802	2168
	1780	91	Apr-July	1287	1691	657	1954
	1580	93	Apr-June	1179	1487	611	1693
Kachess River nr. Easton 7/	110	87	Apr-Sept	101	98	61	126
	105	88	Apr-July	95	91	55	119
	95	91	Apr-June	88	84	53	104
Cle Elum River nr. Roslyn 8/	420	88	Apr-Sept	348	417	250	479
	395	91	Apr-July	326	372	215	435
	340	95	Apr-June	292	318	193	358
Bumping River nr. Nile 9/	135	92	Apr-Sept	99	119	63	146
	125	94	Apr-July	92	108	55	133
	100	94	Apr-June	82	93	51	106
American River nr. Nile	120	95	Apr-Sept		111	50	127
	115	99	Apr-July		93	44	116
	95	90	Apr-June		84	39	95
Tieton River at Tieton Dam 10/	225	89	Apr-Sept	179	228	128	252
	195	92	Apr-July	148	188	93	212
	155	92	Apr-June	120	148	76	168
Naches River nr. Naches 11/	830	93	Apr-Sept	574	721	330	894
	770	95	Apr-July	528	657	270	807
	660	97	Apr-June	478	564	250	680
Ahtanum Creek nr. Tampico 12/	43	93	Apr-Sept		48	8	47
	40	95	Apr-July		43	7	42
	35	95	Apr-June		37	6	37

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	16.30	93	Apr-Sept		12.11	4.47	17.50
at Walla Walla	16.05	93	Apr-July		11.99	4.29	17.33
	15.90	93	Apr-June		11.91	4.25	17.15
Lewis River	1210	93	Apr-Sept	974	904	1030	1301
at Ariel 13/	1040	92	Apr-July	839	610	832	1131
	920	92	Apr-June	755	515	763	995
Cowlitz River	1940	91	Apr-Sept		1635	1570	2125
bl. Mayfield Dam	1670	90	Apr-July		1348	1293	1853
	1415	91	Apr-June		1150	1168	1552
Cowlitz River	2520	91	Apr-Sept	1985	2232	2157	2767
at Castle Rock 14/	2180	91	Apr-July	1746	1835	1766	2401
	1880	93	Apr-June	1537	1581	1601	2028
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	135	84	Apr-Sept		152	97	160
nr. Sequim	110	85	Apr-July		115	75	130
	85	88	Apr-June		83	61	96
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	2260	89	Feb-Aug	1785	2204	1155	2532
at Newhalem 15/	1980	84	Apr-Sept	1648	2115	728	2356
	1655	84	Apr-July	1359	1690	535	1972
	1260	85	Apr-June	1102	1285	429	1485
GREEN RIVER SYSTEM							
Green River							
bl. Howard Hanson Dam 16/	420	90	Feb-Sept		294	305	467
CEDAR RIVER SYSTEM							
Cedar River	75	80	Apr-Sept			55	93
nr. Cedar Falls							

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1980, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	9	153	76	84
Kettle	15	111	50	58
Colville	5	137	76	85
Spokane	4	76	89	63
Okanogan	28	143	57	66
Methow	4	448	84	89
Chelan	4	121	59	67
Entiat	11	192	72	75
Wenatchee	8	114	70	77
Yakima	17	143	85	84
Ahtanum	2	176	88	124
LOWER COLUMBIA BASIN				
Mill Creek	3	84	160	89
Klickitat	1	178	96	74
Cowlitz	1	130	107	83
PUGET SOUND				
White	2	140	80	87
Green	10	94	234	73
Snoqualmie	1	73	72	48
Skykomish	2	113	69	74
Skagit	13	123	68	64
Baker	9	133	66	60
Nooksack	2	125	80	52
OLYMPIC PENINSULA				
Elwha	1	76	65	36
Dungeness	1	114	103	68

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured (February) 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	54.9	13.7	134.7	145.3
Columbia	Franklin D. Roosevelt Lake	5232.0	3063.5	4228.4	3149.2	3698.2
Columbia	Banks Lake	714.9	690.9	690.8	714.9	619.4
Okanogan	Conconully Reservoir	13.0	3.0	9.7	3.0	6.2
Okanogan	Salmon Lake	10.5	8.3	10.5	6.0	7.6
Chelan	Lake Chelan	676.1	255.7	276.5	274.6	294.2
		YAKIMA				
Yakima	Keechelus Lake	157.8	67.4	66.2	130.7	97.6
Kachess	Kachess Lake	239.0	67.9	178.0	178.5	173.4
Cle Elum	Lake Cle Elum	436.9	361.7	65.6	229.4	259.7
Bumping	Bumping Lake	33.7	9.2	3.7	32.8	7.8
Tieton	Rimrock Lake	198.0	54.6	138.7	167.4	118.0
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	845.8	760.5	1001.8	1012.6
Skagit	Diablo Reservoir	90.6	87.9	86.8	85.2	84.2
Skagit	Gorge Reservoir	9.8	7.1	8.3	8.2	7.9

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - FEBRUARY, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of Feb. 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	3.3	3.5
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	9.95	-	8.0
Helmers	17C2M	4400	48	12.0	8.98	8.7	9.8
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	11.03	6.9	9.9

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct Observed	1979 2/ Departure	WINTER Nov 1979 - Jan 1980 Observed	2/ Departure
Columbia in Canada	4.44	-0.58	9.53	-1.60
Pend Oreille - Spokane	3.23	-0.81	8.75	-3.43
Northeastern Washington	2.53	+0.05	5.74	-0.97
Southeastern Washington	2.53	+0.02	6.94	-0.12
Central Washington	1.55	+0.58	4.57	+0.82
North Central Washington	2.22	+0.63	3.65	-1.19
Northwest Slope Cascades	10.68	-2.53	32.64	-5.29
Southwest Slope Cascades	9.66	+0.98	23.33	-5.58

Northeastern Washington - Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon, and Palouse Drainages.

Central Washington - Yakima, Wenatchee, and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

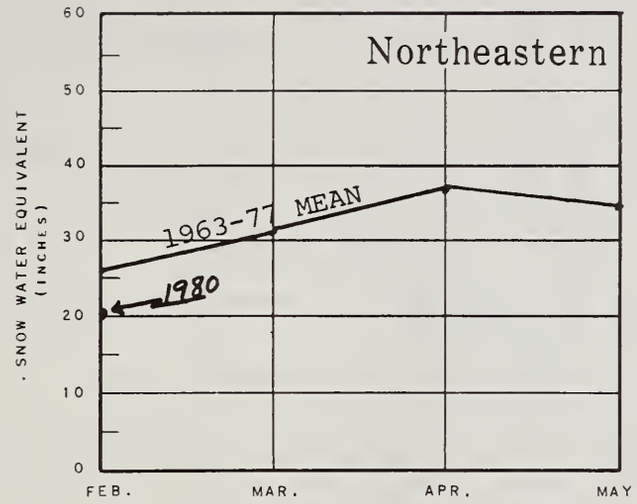
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

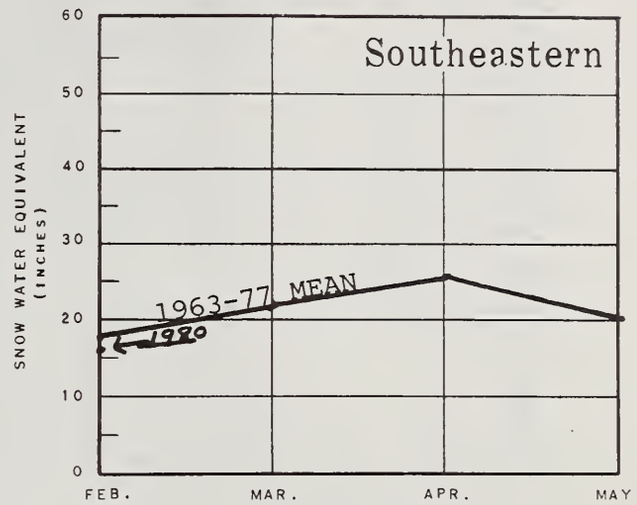
2/ - Departure from 15-year (1958-72) drainage division average.

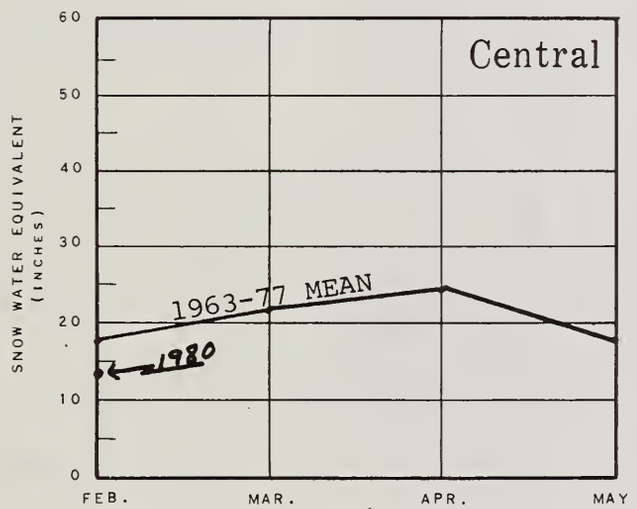
WASHINGTON SNOW COVER

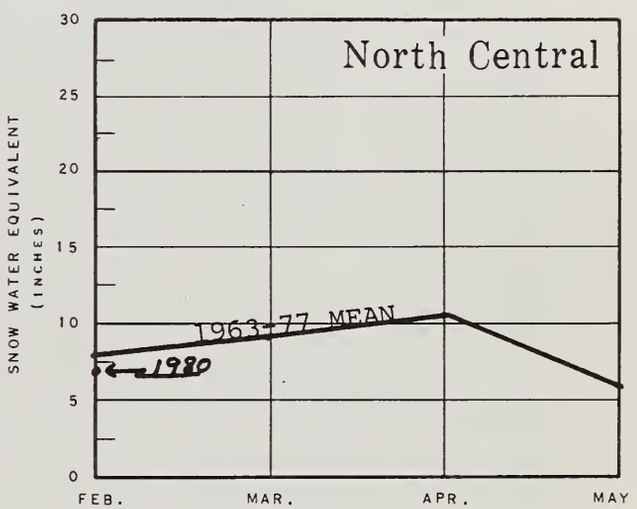
1980

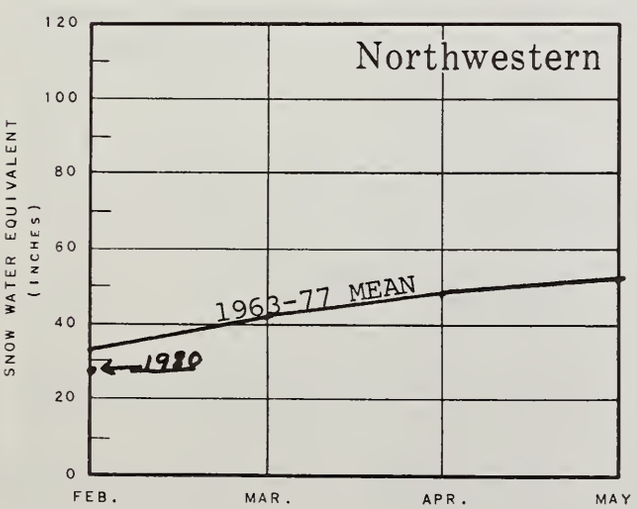
DRAINAGE AREAS

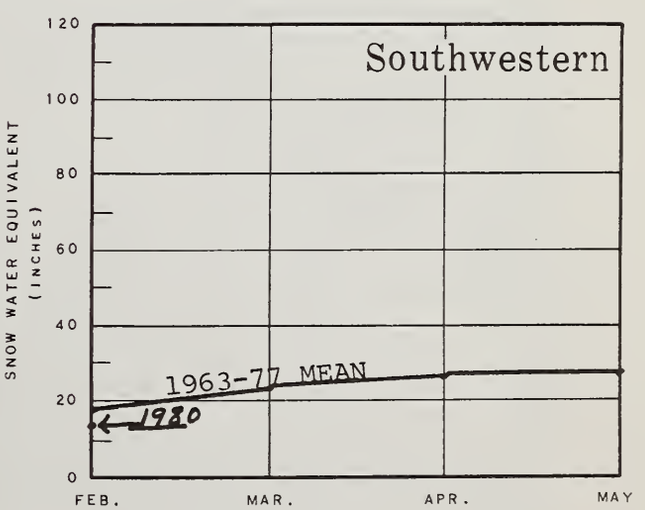












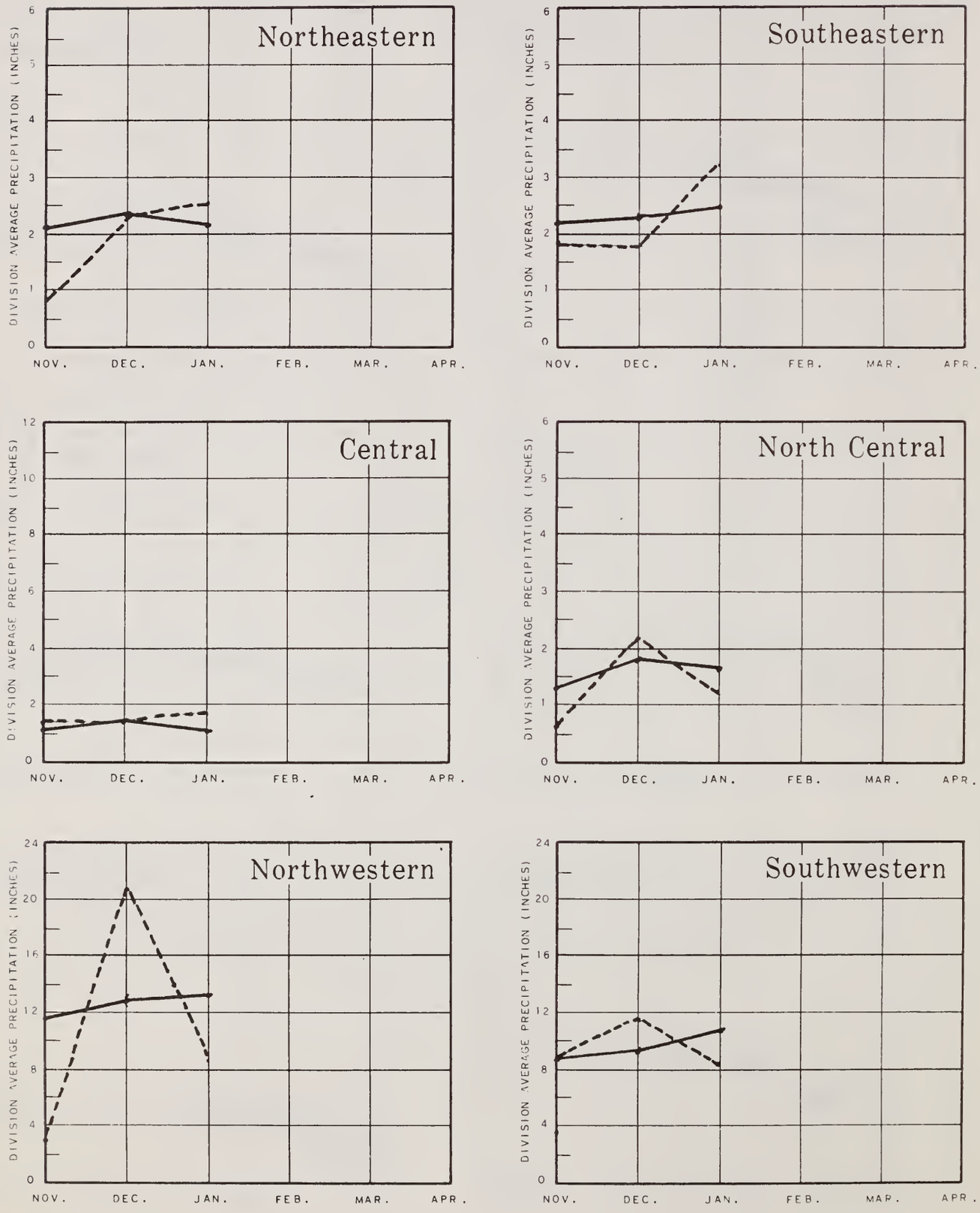
M7-L-22028G

Selected Snow Survey Courses by Soil Conservation Service

WASHINGTON VALLEY PRECIPITATION

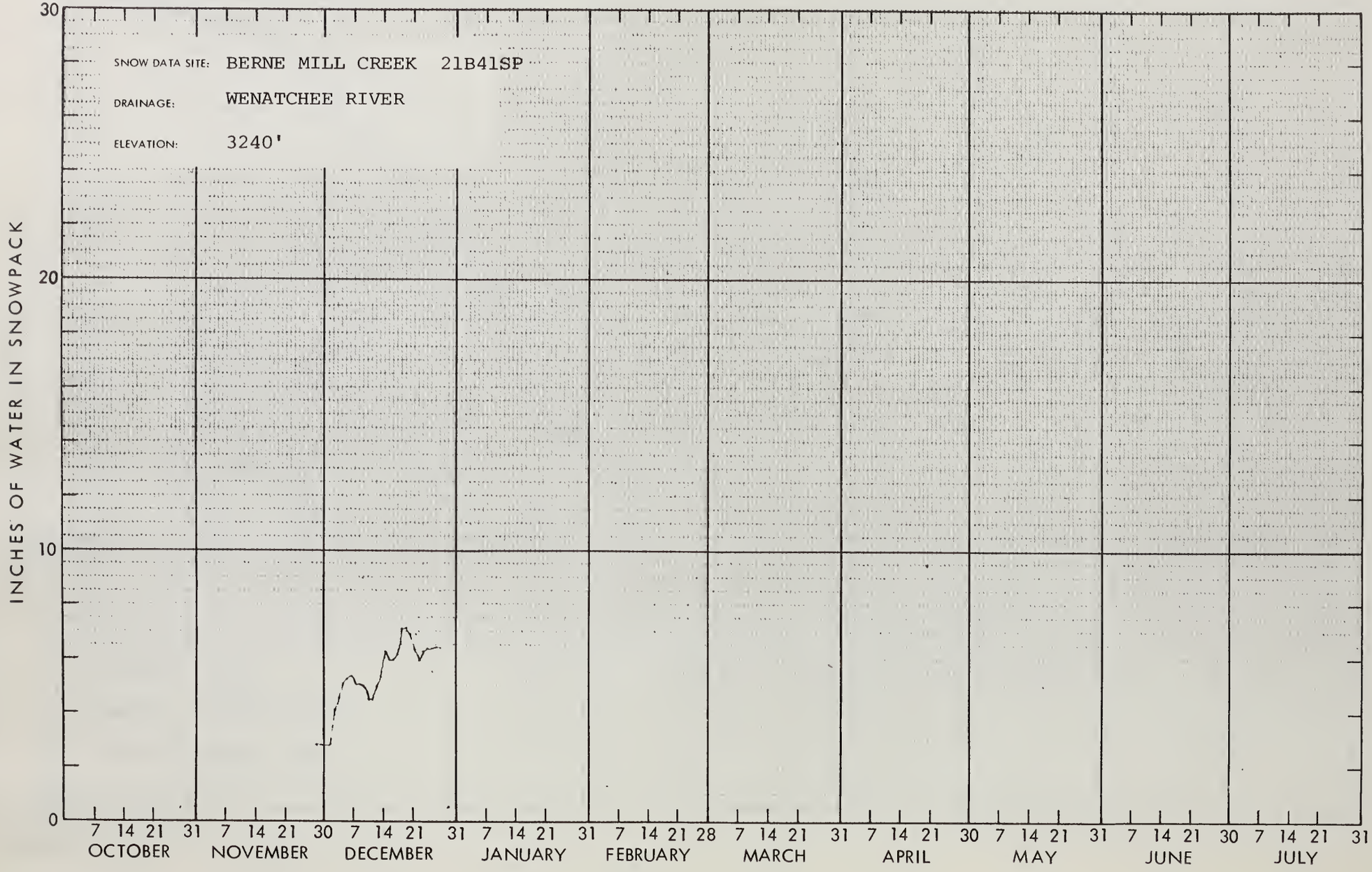
1980

DRAINAGE AREAS

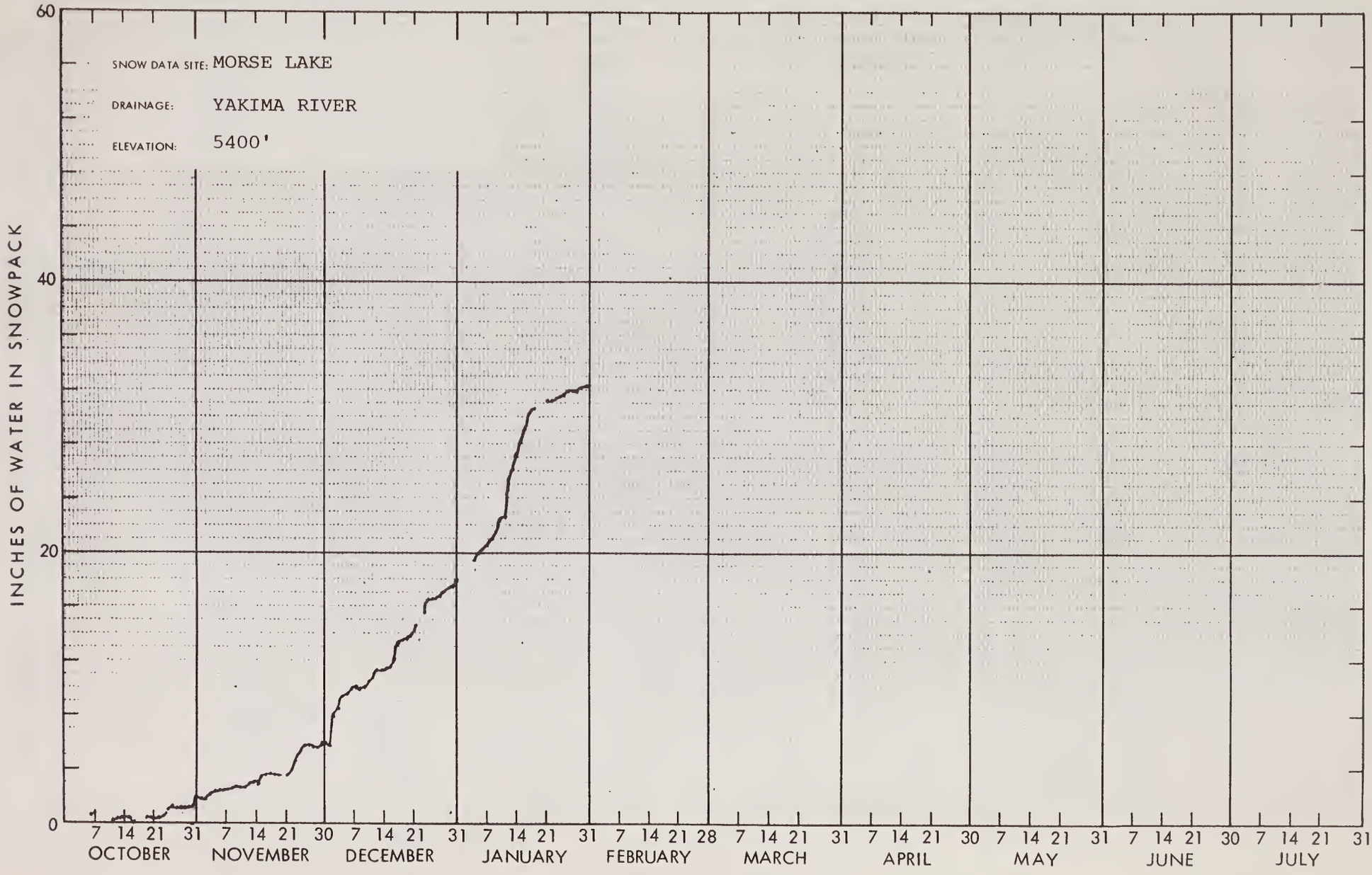


Preliminary Analysis by National Weather Service

WSFB-X138


SNOW DATA SITE: BERNE MILL CREEK 21B41SP
DRAINAGE: WENATCHEE RIVER
ELEVATION: 3240'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13C


SNOW DATA SITE: MORSE LAKE
DRAINAGE: YAKIMA RIVER
ELEVATION: 5400'
INCHES OF WATER IN SNOWPACK
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40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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JANUARY
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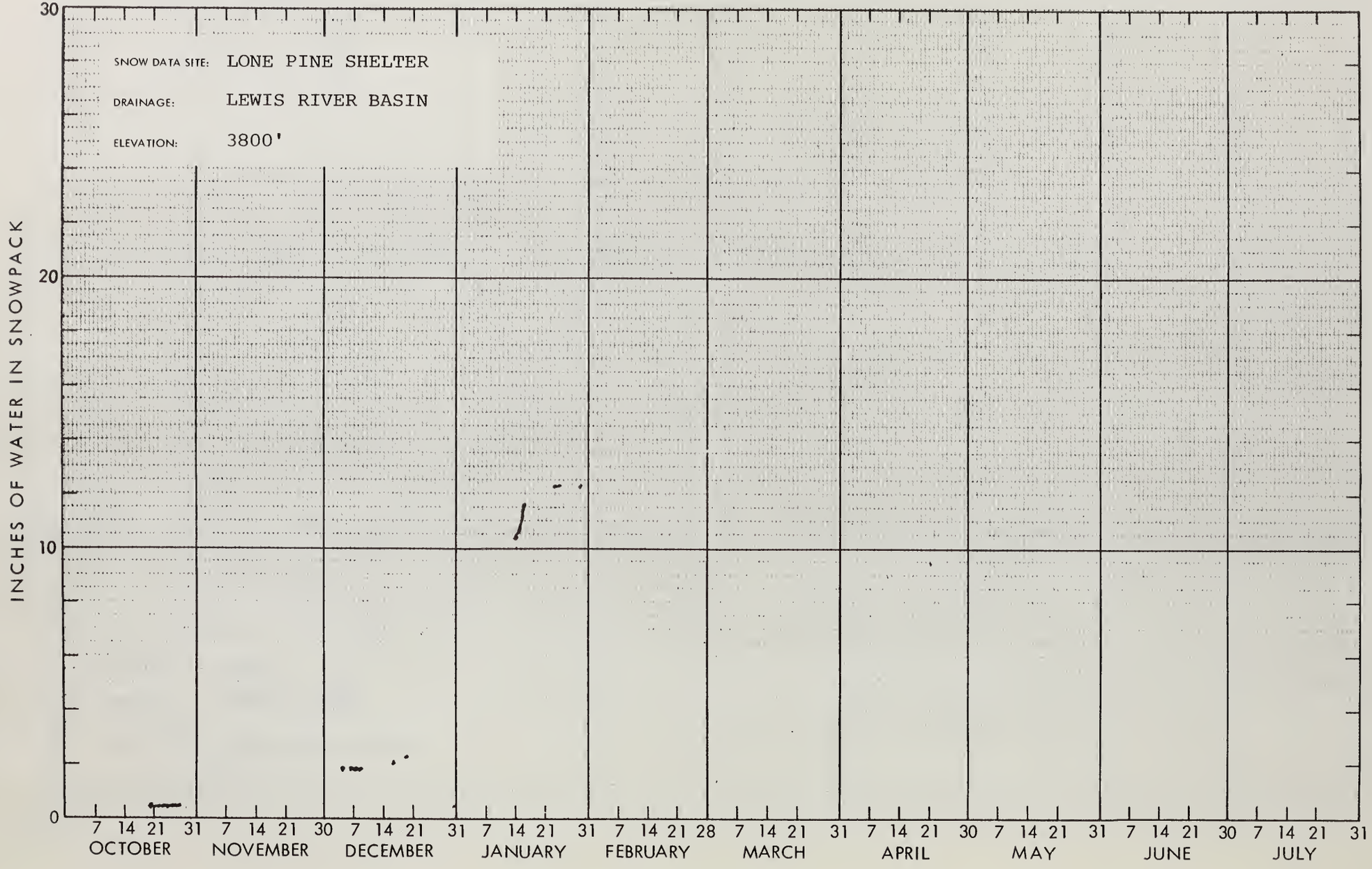
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13B


SNOW DATA SITE: LONE PINE SHELTER
DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
INCHES OF WATER IN SNOWPACK
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10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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JULY

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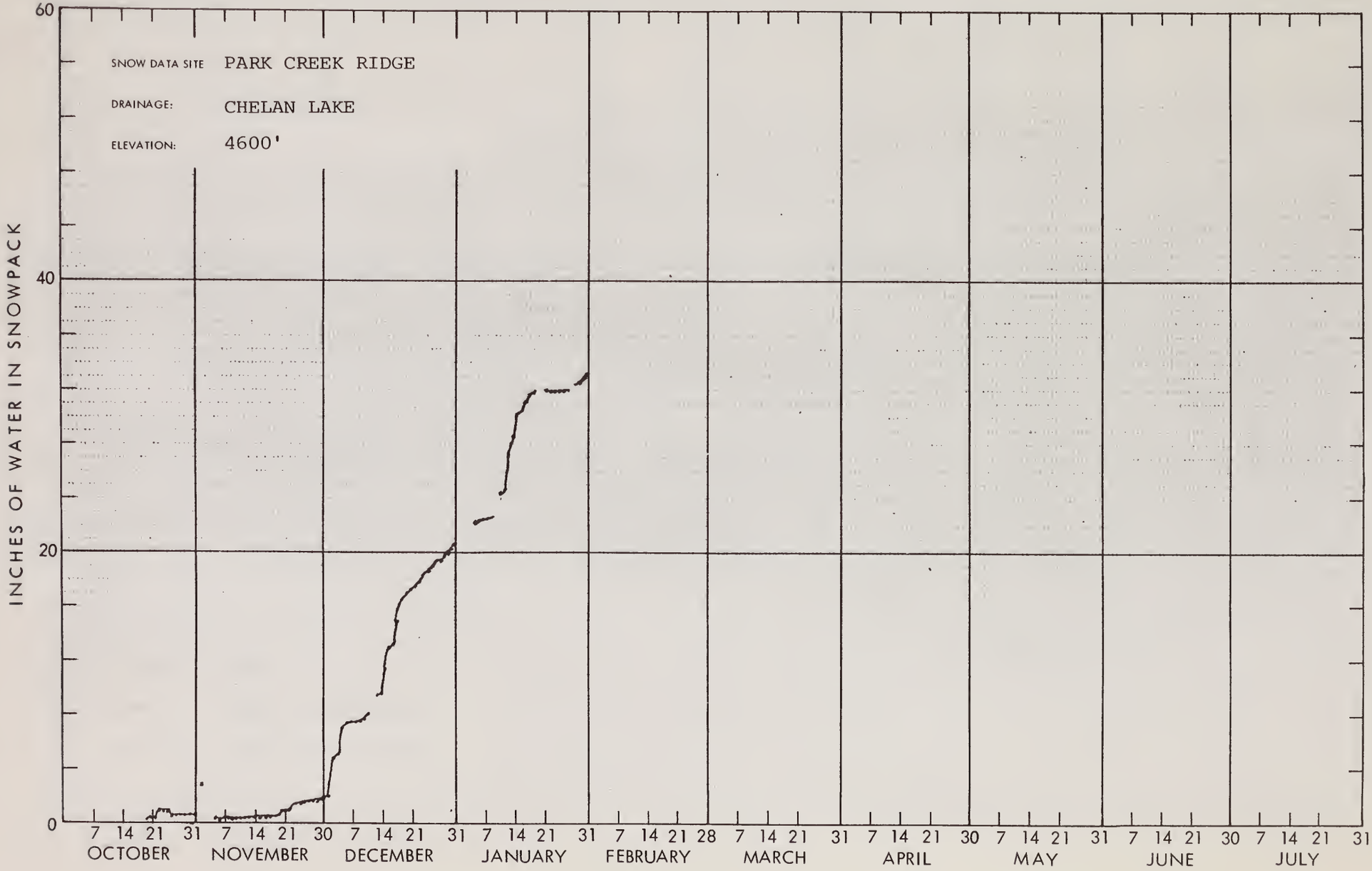
SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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DECEMBER
JANUARY
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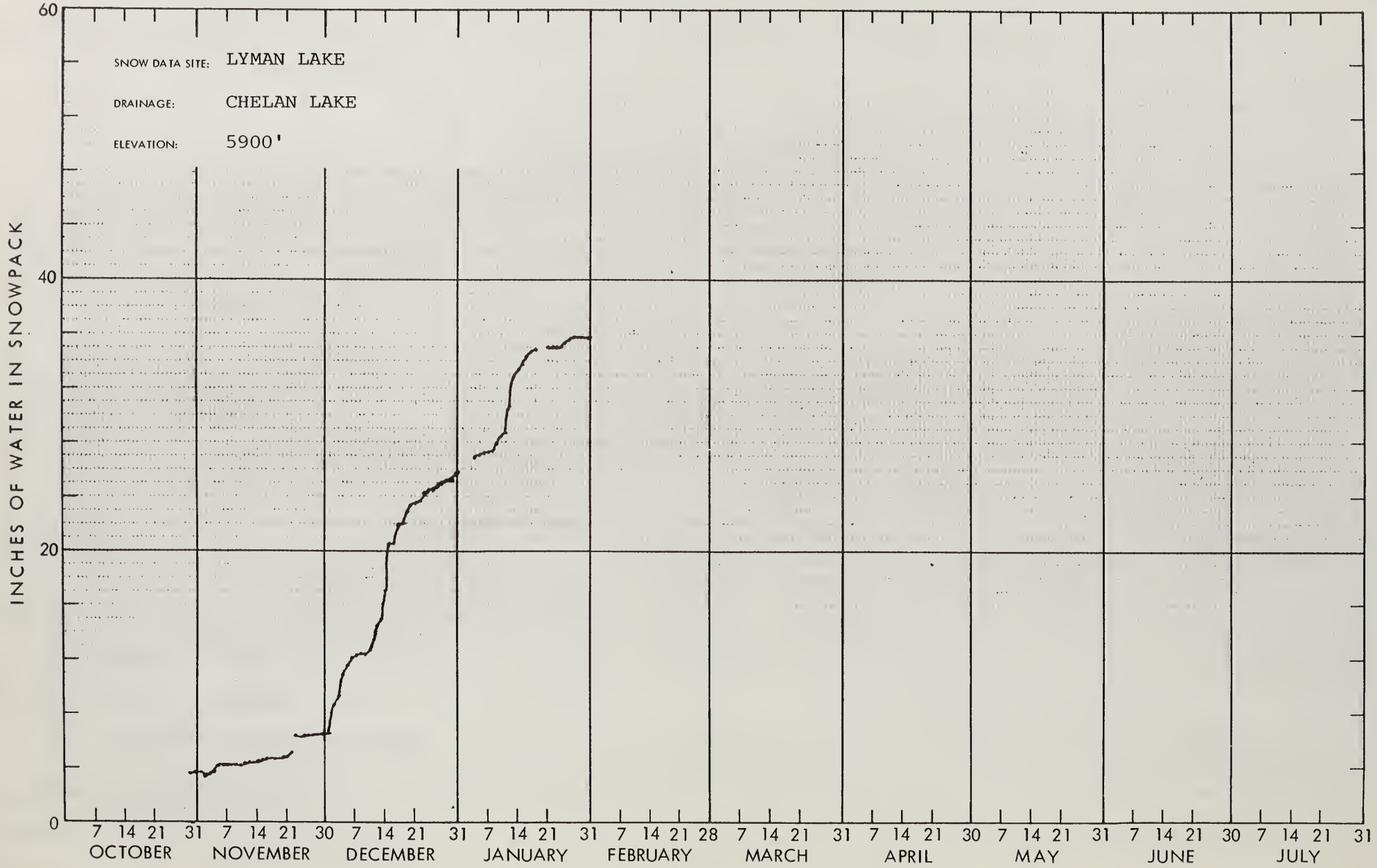
MARCH
APRIL
MAY
JUNE
JULY

WSF8-X13C


SNOW DATA SITE: LYMAN LAKE
DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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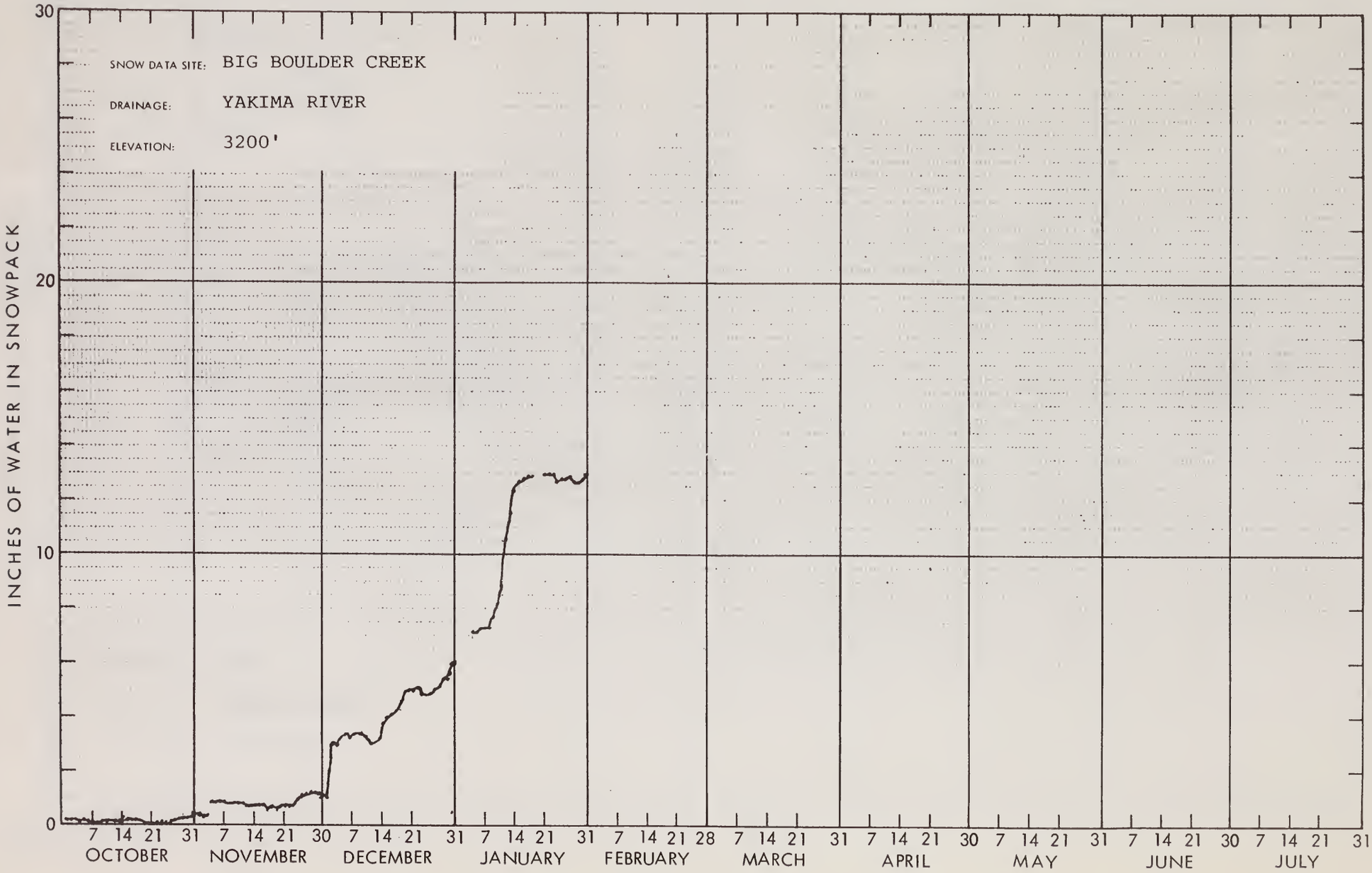
JUNE
JULY

WSFB-X13B


SNOW DATA SITE: BIG BOULDER CREEK
DRAINAGE: YAKIMA RIVER
ELEVATION: 3200'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
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JUNE
JULY

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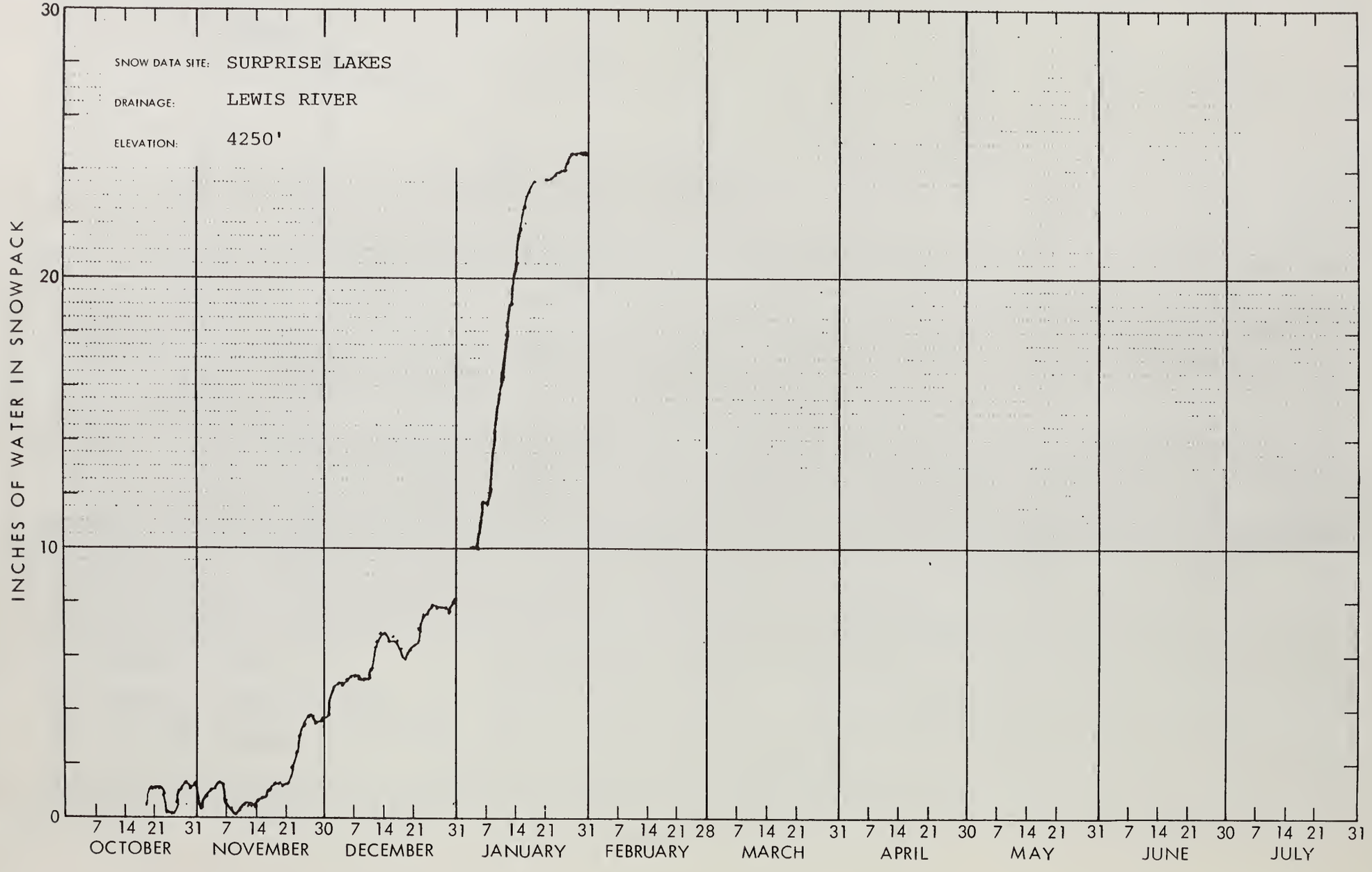
SNOW DATA SITE: SURPRISE LAKES
DRAINAGE: LEWIS RIVER
ELEVATION: 4250'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
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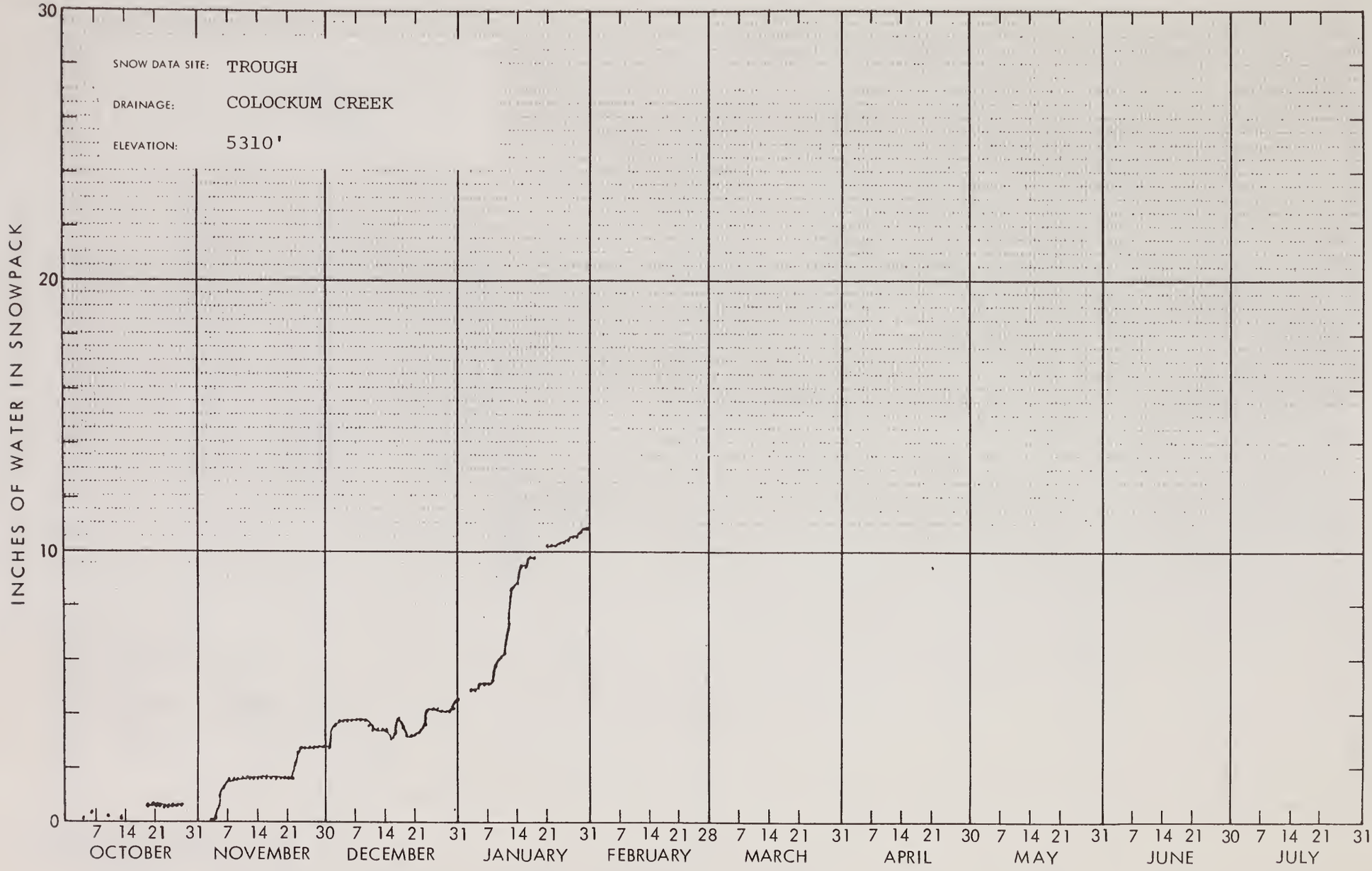
SNOW DATA SITE: TROUGH
DRAINAGE: COLOCKUM CREEK
ELEVATION: 5310'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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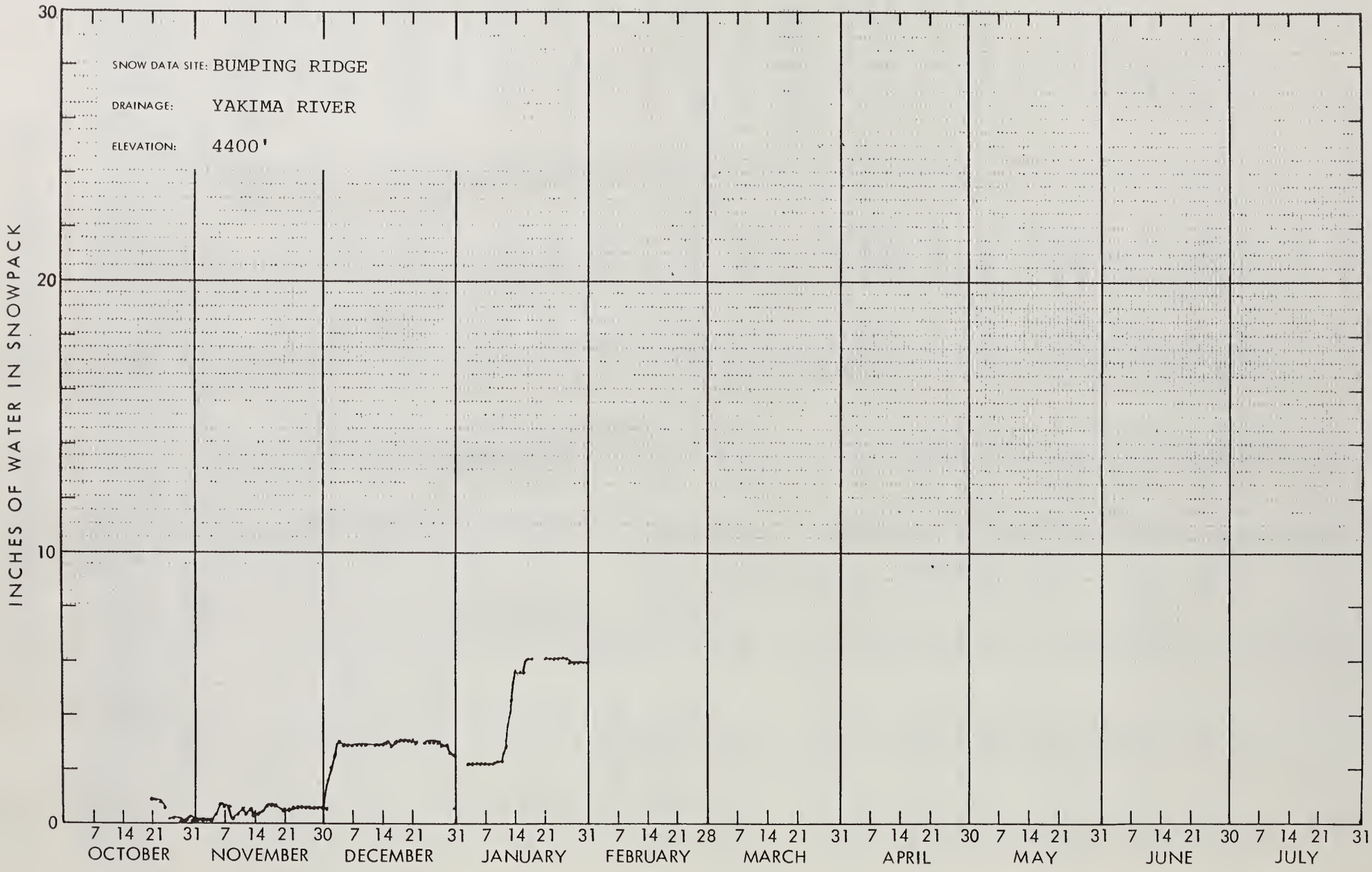
JUNE
JULY

WSFB-X138


SNOW DATA SITE: BUMPING RIDGE
DRAINAGE: YAKIMA RIVER
ELEVATION: 4400'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 1

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
U P P E R C O L U M B I A D R A I N A G E							
PEND OREILLE RIVER							
Benton Meadow	16A02	2344	1/2	6	1.1	1.7	2.7
			1/30	17	3.9	3.2	5.2
Benton Spring	16A03	4900	1/2	24	5.9	3.1	7.5
			1/30	36	10.9	6.2	13.2
Chewelah	17A04	4925	2/2	36	9.4	6.5	11.5
Heart Lake Trail	14C10	4800	12/26	27	6.3	12.2	9.7
			1/26	45	13.6	14.5	12.8
Hoodoo Basin	15C10	6000	12/26	64	18.8	20.2	22.2
			1/26	87	30.0	25.4	39.7
Hoodoo Creek	15C01	5900	12/26	55	14.8	17.9	19.8
			1/26	82	27.3	22.5	37.2
Lookout	15B02	5250	12/31	36	10.4	11.2	13.8
			1/30	60	20.0	14.4	25.6
Nelson	19-Can	3050	1/2	23	5.9	3.6	7.4*
			2/1	38	7.9	4.6	11.1*
Schweitzer Bowl	16A06	4500	1/3	39	11.0	6.8	13.8
			1/31	53	18.5	9.5	23.1
Schweitzer Ridge	16A05	6100	1/3	60	19.7	11.9	21.3
			1/31	92	38.4	15.6	34.2
Winchester Creek	17A03	2970	1/28	28	6.8	3.9	8.6
KETTLE RIVER							
Barnes Creek	90-Can	5300	1/28	29	7.7	11.5	13.8*
Big White Mtn.	154-Can	5500	1/31	32	8.0	10.1	13.8*
Boulder Road	18A02	1450	1/2	3.6	0.8	1.0	2.3
			1/28	9.4	1.2	2.4	3.9
Butte Creek	18A03	4070	1/2	13	2.8	2.0	4.0
			1/28	24	4.2	2.7	6.9
Cabin Creek	18A08	3170	1/2	11	2.0	1.3	3.7
			1/28	19	3.7	2.5	9.3
Carmi	126-Can	4100	1/31	16	2.2	3.4	5.2*
Farron # 1	17-Can	4000	1/31	27	7.0	3.5	9.5*
Farron # 2	243-Can	4000	1/31	30	7.6	4.1	8.2*
Goat Creek	18A04	3595	1/2	9.6	2.1	1.5	3.5
			1/28	17	3.8	2.5	5.6
Monashee Pass	48A-Can	4500	1/1	Not Measured		7.2	7.3*
			1/28	20	4.8	8.5	9.6*
Snow Caps Creek	18A05	2150	1/2	5.6	1.2	1.8	2.5
			1/28	14	2.6	2.5	4.1
Snow Caps Trail	18A06	2720	1/2	8.6	1.7	1.5	2.9
			1/28	17	3.6	2.4	4.8
Summit G.S.	18A07	4600	1/2	10	1.9	1.7	3.5
			1/28	16	3.6	2.7	5.9
Trapping Creek Lower	166-Can	3050	1/31	12	1.8	3.2	4.3*
Trapping Creek Upper	165-Can	4450	1/31	20	4.3	6.3	7.4*

Average based on 1963-77 Average

* Average for years of record

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
COLVILLE RIVER							
Baird	17A06	3215	1/31	20	4.0	4.4	5.5
Carlson	18A09	2885	2/2	18	2.7	4.0	3.7
Chewelah	17A04	4925	2/2	36	9.4	6.5	11.5
Stranger Mountain	17A05	5990	2/2	33	8.2	5.4	9.6
Togo	18A10	3370	2/2	34	9.7	4.2	8.6
SPOKANE RIVER							
Above Burke	15B08	4100	12/31	21	5.0	11.0	9.3
			1/30	37	10.2	14.2	16.4
4th of July Summit	16B03	3100	1/1	Not Measured		4.7	3.3
			1/30	15	4.2	9.6	7.3
Lookout	15B02	5250	12/31	36	10.4	11.2	13.8
			1/30	60	20.0	14.4	25.6
Mosquito Ridge	16A04	5110	1/31	59	10.2	-	-
Sherwin	16C01	3200	12/30	6	1.8	8.0	5.5
			1/30	21	5.9	11.7	10.7
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	1/31	12	2.2	6.4	5.2*
Blackwall Peak	100-Can	6250	12/27	56	14.8	-	13.2*
			1/31	67	21.2	11.7	24.0*
Brenda Mine	193-Can	4800	12/27	30	6.9	6.2	7.0*
			1/29	30	7.2	7.7	9.7*
Brookmere	27-Can	3200	12/31	13	3.9	3.6	3.3*
			1/31	24	6.1	4.3	7.0*
Carrs Landing Upper	168-Can	3200	12/29	0	0.0	-	2.0*
			1/30	6.3	1.3	3.7	3.9*
Enderby	130-Can	6250	1/1	Not Measured		11.6	15.7*
			1/30	54	17.0	13.7	24.8*
Hamilton Hill	107-Can	4900	1/29	37	10.6	7.9	10.4*
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	32.7
Horseshoe Basin +	19A05a	7000	1/29	42	10.5	-	12.8
Isontok Lake	152-Can	6300	12/30	17	3.9	3.8	4.2*
			1/27	18	3.5	5.5	6.3*
Lost Horse Mtn.	105-Can	6300	1/31	25	5.2	4.9	6.7*
Loup Loup	19A07	4650	1/30	31	6.9	1.5	7.4
McCulloch	4-Can	4200	12/28	9.8	1.5	3.7	3.4*
			1/31	16	2.5	4.1	4.9*
Missezula Mtn.	106-Can	5100	1/28	24	5.9	5.5	6.9*
Mission Creek	5A-Can	6000	12/28	20	4.4	8.5	9.4*
			1/28	28	6.9	10.6	13.7*
Monashee Pass	48A-Can	4500	1/1	Not Measured		7.2	7.3*
			1/28	20	4.8	8.5	9.6*
Mount Kobau	156-Can	5950	12/31	22	4.5	1.6	2.1*
			1/31	28	6.7	2.4	9.6*

\# Average based on 1963-77 Average
* Average based on years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
OKANOGAN RIVER (Cont.)							
Muckamuck +	19A09a	6390	2/1	Not Measured		3.2	11.4
Mutton Creek No. 1	19A01	5700	1/28	32	8.5	1.7	10.8
Mutton Creek No. 2SP	19A11SP	6000	1/28		5.7	1.0	New
New Copper Mtn.	48A-Can	4300	1/30	18	3.5	4.3	5.2*
New Penticton Res. #2	183-Can	5225	2/1	20	3.5	4.4	6.9*
Oyama Lake	203-Can	4400	1/30	14	2.0	5.6	5.7*
Paysayten +	20A28a	4300	1/29	42	10.5	4.5	14.2
Postill Lake	55-Can	4500	1/30	16	3.2	5.8	5.9*
Rusty Creek	19A03	4000	1/29	20	5.0	1.6	5.6
Salmon Meadows	19A02	4500	1/28	32	7.3	1.4	7.7
Silver Star Mountain	99-Can	6050	12/30	30	8.1	8.8	14.3*
			1/28	38	10.9	11.2	19.1*
Starvation Mountain +	19A10a	6750	1/29	50	12.5	3.8	13.8
Summerland Reservoir	3A-Can	4200	12/31	10	2.4	4.7	5.0*
			1/26	21	5.5	6.5	7.7*
Touts Coulee	19A06	2845	1/29	11	1.6	1.0	3.1
Trout Creek	3-Can	4700	1/28	17	3.9	5.6	5.2*
Vaseux Creek	233-Can	4600	12/30	11	2.0	1.7	2.5*
			1/28	17	3.2	2.6	4.8*
White Rocks Mtn.	70-Can	6000	12/31	26	6.3	8.5	13.1*
			1/30	34	10.2	12.8	18.3*
METHOW RIVER							
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	32.7
Horseshoe Basin +	19A05A	7000	1/29	42	10.5	-	12.8
Loup Loup	19A07	4650	1/30	31	6.9	1.5	7.4
Mutton Creek No. 1	19A01	5700	12/8	32	8.5	1.7	10.8
Mutton Creek No. 2 SP	19A11SP	6000	1/28		5.7	1.0	New
Rusty Creek	19A03	4000	1/29	20	5.0	1.6	5.6
Salmon Meadows	19A02	4500	1/28	32	7.3	1.4	7.7
War Creek Pass +	20A31a	6500	2/1	Not Measured		13.8	36.2
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	2/1	Not Measured		20.1	30.0
Little Meadows +	20A24a	5275	1/29	90	25.2	20.4	30.7
Lyman Lake +	20A23A	5900	2/1	Not Measured		25.2	39.7
Park Creek Flat +	20A13a	2220	1/29	66	18.5	13.5	26.8
Park Creek Ridge	20A12A	4600	1/29	94	26.3	20.1	36.9
Rainy Pass	20A09	4780	1/30	71	22.3	15.4	30.9
War Creek Pass +	20A31a	6500	2/1	Not Measured		13.8	36.2

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
ENTIAT RIVER							
Blue Creek G.S. +	20B28a	5425	1/28	84	25.2	17.4	New
Brief	20B19	1600	1/28	27	5.9	5.1	7.0
Entiat Meadows +	20A33a	4540	1/28	102	30.6	8.4	40.0
Entiat River Trail +	20A34a	3325	1/28	58	14.5	7.9	20.0
Four Mile Ridge +	20B27a	6800	1/28	72	21.6	10.1	30.9
Fox Camp +	20A36a	6510	1/28	122	36.6	15.7	44.7
Pope Ridge	20B20	3450	1/30	47	11.7	6.8	15.2
Pugh Ridge	20A32a	6725	1/28	73	21.9	17.6	29.5
Shady Pass	20A37	6200	1/29	58	17.2	10.4	20.7
Snow Brushy +	20A35a	3910	1/28	81	20.3	9.9	30.5
Tommy Creek +	20B21a	4900	1/28	52	15.6	8.4	22.5
WENATCHEE RIVER							
Berne-Mill Creek	21B23	3170	11/29	6.1	1.0	3.8	4.5
			12/13	26	5.4	8.4	7.8
			12/28	23	8.1	12.0	11.0
			1/14	60	14.8	14.6	16.2
			1/30	55	16.8	14.5	21.5
Berne-Mill Creek New	21B41SP	3240	11/29	5.2	1.0	4.2	4.5
			12/28	17	5.9	12.1	11.6
			1/30	48	15.8	14.4	20.0
Blewett Pass No. 2	20B02	4270	12/26	16	4.5	5.9	6.5
			1/24	37	10.2	9.1	13.2
Chiwaukum G.S.	20B16	1810	11/29	5	1.0	2.0	1.5
			12/13	18	3.1	3.4	3.2
			12/28	18	4.4	4.9	4.8
			1/14	37	9.1	5.4	7.0
			1/30	33	8.9	5.9	9.5
Lake Wenatchee	20B05	1970	11/29	4	0.7	3.0	1.6
			12/13	19	3.5	4.6	3.6
			12/28	15	4.4	6.9	5.9
			1/14	38	9.3	8.0	9.5
			1/30	34	9.7	9.6	11.8
Leavenworth R.S.	20B17	1127	11/1	0	0.0	0.0	0.0
			11/15	0	0.0	0.0	0.1
			11/28	3.5	0.4	1.3	0.7
			12/14	4.0	1.5	2.3	1.7
			12/27	6	0.9	3.1	3.1
			1/14	23	4.1	4.0	4.8
			1/28	20	3.8	3.7	5.9
Lyman Lake +	20A23A	5900	2/1	Not Measured		25.2	39.7
Merritt	20B18	2140	11/29	4	0.8	3.0	2.3
			12/13	11	2.4	5.3	4.8
			12/28	11	3.4	7.0	7.1
			1/14	38	8.8	8.9	11.2
			1/30	33	10.0	9.9	14.0

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 5

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
WENATCHEE RIVER (Cont.)							
Stevens Pass	21B01	4070	11/29	13	3.4	5.1	8.1
			12/13	44	9.8	11.8	14.7
			12/28	47	16.1	19.7	21.9
			1/14	86	25.3	23.0	30.1
			1/30	80	28.3	23.7	37.3
Stevens Pass Sand Shed	21B45	3700	11/29	6.2	1.4	3.7	6.4
			12/13	28	6.1	9.7	11.2
			12/28	30	10.0	15.3	15.3
			1/14	64	16.2	-	21.8
			1/30	58	19.0	17.8	26.8
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	1/30	32	8.1	3.7	11.7
Colockum Creek Lower	20B23	4300	1/30	38	9.0	4.2	8.5
Trough # 2	20B25SP	5310	1/30	38	11.5	4.5	New
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	1/28	29	7.1	4.3	6.7
Scout-A-Vista	20B04	3400	1/28	36	7.0	4.3	6.9
STEMILT CREEK							
Jump-Off	20B08	4450	1/30	34	8.4	5.4	7.1
Stemilt Slide	20B06	5000	1/28	44	11.1	6.0	11.2
Upper Wheeler	20B07	4400	1/28	36	9.1	5.4	8.4
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	12/26	11	2.8	2.5	3.2
			1/28	34	7.8	4.6	6.1
Blewett Pass No. 2	20B02	4270	12/26	16	4.5	5.9	6.5
			1/24	37	10.2	9.1	13.2
Bumping Lake Old	21C08	3450	12/4	19	4.2	-	2.4
			12/28	14	5.1	3.2	6.5
			1/11	40	7.9	5.1	10.4
			1/29	46	12.8	4.8	13.3
Bumping Lake New	21C36	3400	12/4	22	4.2	1.4	3.7
			12/28	18	5.3	4.4	8.3
			1/11	36	7.9	5.9	14.2
			1/29	52	14.6	5.2	16.8
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
Colockum Pass	20B09	5370	2/1	Not Measured		6.5	11.8
Cooke Creek	20B10	4123	2/1	Not Measured		2.2	5.3
Corral Pass	21B13	6000	1/28	64	20.0	19.1	-
Green Lake	21C10	6000	1/28	68	23.4	12.8	19.4
Grouse Camp	20B11	5385	2/1	Not Measured		7.8	12.3
High Creek	20B12	2930	2/1	Not Measured		3.4	5.5
Joe Lake +	21B46a	4624	1/27	99	27.9	35.5	41.8

Average based on 1963-77 Average

\+ Snow Water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1977

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 6

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
YAKIMA RIVER (Cont.)							
Lake Cle Elum	21B14M	2200	11/29	7.7	0.5	2.3	1.1
			12/26	4.8	1.4	3.8	3.9
			1/14	30	4.4	4.8	7.1
			1/30	26	6.2	5.3	8.5
Lemah Creek +	21B47a	3327	1/27	84	23.7	25.5	31.0
Manashtash	20C01	3935	1/29	26	5.8	2.9	4.3
Morse Lake	21C17	5400	1/31	94	33.9	19.3	38.9
Nanum	20B13	3875	2/1	Not Measured		3.9	7.4
Olallie Meadows	21B02	3625	1/28	49	16.6	22.8	34.8
Satus Pass	20D01	4030	1/31	24	6.6	3.7	8.9
Stampede Pass SP	21B10	3860	11/29	15	2.1	5.3	7.5
			12/17	29	9.3	11.1	14.0
			12/31	34	10.3	22.3	17.4
			1/14	76	18.8	21.9	24.8
			1/31	70	18.3	23.4	31.5
Trail Creek	20B14	3360	2/1	Not Measured		2.6	2.9
Tunnel Avenue	21B08	2450	11/30	8.4	0.5	3.8	3.1
			12/26	15	5.2	6.7	8.4
			1/15	49	12.0	8.7	13.7
			1/28	46	13.0	10.0	17.8
Van Epps Pass +	20B26a	5925	1/27	80	22.6	36.2	39.4
Walters Flat	20B15	3360	2/1	Not Measured		3.6	6.5
Waptus Lake +	21B49a	3024	1/27	63	17.8	26.6	32.2
White Pass (E. Side)	21C28	4500	12/3	16	3.4	3.3	4.6
			12/27	16	4.4	-	10.5
			1/10	59	10.1	8.7	14.4
			1/29	54	15.2	11.7	18.4
AHTANUM CREEK							
Ahtanum R.S.	21C11	3100	12/26	11	2.8	2.5	3.2
			1/28	34	7.8	4.6	6.1
Green Lake	21C10	6000	1/28	68	23.4	12.8	19.4
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	1/28	46	13.8	13.8	18.2
MILL CREEK							
Homestead	17C01	4030	1/30	27	6.5	8.1	7.2
Martin Springs	17C02	4400	1/30	35	8.9	11.0	10.3
Tollgate	18D03M	5070	1/29	50	16.1	17.5	17.7

Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS-PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 7

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
KLICKITAT RIVER							
Satus Pass	20D01	4030	1/31	24	6.6	3.7	8.9
COWLITZ RIVER							
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
White Pass (E. Side)	21C28	4500	12/3	16	3.4	3.3	4.6
			12/27	16	4.4	-	10.5
			1/10	59	10.1	8.7	14.4
			1/29	54	15.2	11.7	18.4
P U G E T S O U N D D R A I N A G E							
WHITE RIVER							
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
Corral Pass	21B13	6000	1/28	64	20.0	19.1	-
Morse Lake	21C17	5400	1/31	94	33.9	19.3	38.9
GREEN RIVER							
Airstrip	21B24	1800	12/10	Trace	0.0	0.8	0.6
			12/28	0	0.0	1.2	1.8
			1/27	18	4.8	3.7	5.6
Charley Creek	21B25	1200	12/10	0	0.0	0.0	0.1
			12/28	0	0.0	0.0	1.5
			1/27	6.5	1.5	2.2	1.3
Cougar Mountain	21B42SP	3200	1/28	28	9.3	12.0	17.3
Grass Mtn. No. 2	21B27	2900	12/10	Trace	0.0	1.8	2.1
			12/28	Trace	0.0	2.8	5.8
			1/27	35	10.1	8.5	15.2
Grass Mtn. No. 3	21B28	2100	12/10	Trace	0.0	-	0.5
			12/28	0	0.0	1.3	2.2
			1/27	12	3.8	4.8	5.2
Lester Creek	21B29	3100	12/10	12	3.2	1.9	2.7
			12/28	11	3.1	10.1	8.5
			1/27	52	13.4	13.0	17.5
Lynn Lake	21B50	4000	12/10	Trace	0.0	0.7	2.7
			12/28	5	1.3	9.9	8.5
			1/27	28	8.7	14.9	18.2
Sawmill Ridge	21B31	4700	12/10	14	3.7	2.0	5.6
			12/28	27	7.4	13.6	13.7
			1/27	59	17.8	16.3	27.5
Snowshoe Butte	21B43SP	5000	1/28	83	29.1	26.6	40.8

Average based on 1963-77 average

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average #
GREEN RIVER (Cont.)							
Stampede Pass SP	21B10	3860	11/29	15	2.1	5.3	7.5
			12/17	29	9.3	11.1	14.0
			12/31	34	10.3	22.3	17.4
			1/14	76	18.8	21.9	24.8
			1/31	70	18.3	23.4	31.5
Twin Camp	21B30	4100	12/10	11	2.8	2.4	3.4
			12/28	13	4.3	12.0	9.4
			1/27	49	13.1	14.3	18.4
SNOQUALMIE RIVER							
Olallie Meadows	21B02	3625	1/28	49	16.6	22.8	34.8
SKYKOMISH RIVER							
Stevens Pass	21B01	4070	11/29	13	3.4	5.1	8.1
			12/13	44	9.8	11.8	14.7
			12/28	47	16.1	19.7	21.9
			1/14	86	25.3	23.0	30.1
			1/30	80	28.3	23.7	37.3
Stevens Pass Sand Shed	21B45	4070	11/29	6.2	1.4	3.7	6.4
			12/13	28	6.1	9.7	11.2
			12/28	30	10.0	15.3	15.3
			1/14	64	16.2	-	21.8
			1/30	58	19.0	17.8	26.8
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	1/29	28	7.9	6.6	12.2
Beaver Pass	21A01	3680	1/29	50	15.5	8.3	24.4
Brown Top Ridge +	21A28a	6000	1/29	102	34.0	21.1	48.0
Cloudy Pass +	20A22a	6500	2/1	Not Measured		20.1	30.0
Devils Park	20A04	5900	1/30	81	26.8	18.3	34.0
Freezeout Creek Trail	20A01	3500	1/29	30	7.5	5.5	11.5
Freezeout Meadows New	20A38	5000	1/29	52	15.6	-	28.2
Granite Creek	21A29A	3500	1/30	38	10.2	9.4	16.3
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	34.5
Klesilkwa	35B-Can	3700	1/25	19	4.2	6.3	9.9*
Lyman Lake	20A23A	5900	2/1	Not Measured		25.2	39.7
Meadow Cabins	20A08	1900	1/30	15	4.2	7.1	6.9
New Hozomeen Lake	21A30	2800	1/29	29	7.6	5.6	10.5
New Tashme	26A-Can	2500	2/1	Late Report		7.7	8.5*
Rainy Pass	20A09	4780	1/30	71	22.3	15.4	30.9
Thunder Basin	20A07	4200	1/30	31	8.2	11.8	17.4

\# Average based on 1963-77 average

* Average for years of record

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 9

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
BAKER RIVER							
Dock Butte +	21A11A	3800	11/28	25	7.0	-	10.1
			12/27	40	12.0	-	28.7
			1/30	68	24.0	31.0	47.4
Easy Pass +	21A07A	5200	11/28	29	9.0	-	10.1
			12/27	72	22.0	9.0	32.8
			1/30	96	34.0	15.0	51.7
Jasper Pass +	21A06A	5400	11/28	35	10.0	-	18.2
			12/27	96	29.0	28.0	44.6
			1/30	120	42.0	35.0	69.3
Marten Lake	21A09A	3600	11/28	20	6.0	-	15.0
			12/27	48	14.0	27.0	36.6
			1/30	98	34.0	38.0	55.4
Mt. Blum +	21A18a	5800	11/28	12	4.0	-	11.1
			12/27	60	18.0	15.0	33.1
			1/30	74	26.0	15.0	48.4
Panorama New	21A26	4300	12/27	70	27.8	-	-
			1/13	96	31.0	18.8	38.9
			1/27	93	38.5	18.2	48.7
Rocky Creek	21A12A	2100	11/28	10	3.0	-	3.3
			12/27	14	4.0	-	14.4
			1/30	37	13.0	-	24.7
Schreibers Meadow	21A10A	3400	11/28	15	4.0	-	8.6
			12/27	36	11.0	16.0	26.0
			1/30	62	22.0	22.0	41.0
S. Thunder Creek +	21A14A	2200	12/27	10	3.0	-	6.0
			1/30	18	6.0	6.0	10.0
Watson Lakes	21A08A	4500	11/28	24	7.0	-	10.0
			12/27	46	14.0	19.0	29.4
			1/30	70	25.0	25.0	44.4
NOOKSACK RIVER							
Glacier Creek	21A23	3700	12/1	Not Measured		1.0	6.9
			1/1	Not Measured		-	7.4
			1/31	13	4.9	13.0	19.7
Panorama New	21A26	4300	12/30	70	27.8	-	-
			1/13	96	31.0	18.8	38.9
			1/27	93	38.5	18.2	48.7
O L Y M P I C P E N I N S U L A							
DUNGENESS RIVER							
Deer Park	23B04	5200	1/30	30	10.4	9.1	15.2
MORSE CREEK							
Cox Valley	23B14	4500	1/27	54	18.6	14.8	29.1
ELWHA RIVER							
Hurricane	23B03	4500	1/27	23	5.9	7.8	16.4

+Snow water equivalent estimated from aerial stadia observation

USDA SCS-PORTLAND OREGON-1973

Average based on 1963-77 average

PRECIPITATION STORAGE GAGES

Amount of precipitation in inches that has accumulated since the previous measurement.

BAW FAW PEAK

Not reported

BIG BOULDER CREEK

10/1/78	Recharge
11/1/78	4.2
12/1/78	18.6
1/1/79	0.7
2/1/79	3.6
3/1/79	11.9
4/1/79	4.1
5/1/79	-3.5
6/1/79	-2.6
7/1/79	0.2
8/1/79	Recharge
11/1/79	1.5
12/1/79	2.9
1/4/80	18.2
2/1/80	5.5

BUMPING RIDGE

10/1/78	Recharge
12/1/78	3.5
1/1/79	6.3
2/1/79	1.8
3/1/79	13.5
4/1/79	1.7
5/1/79	2.0
6/1/79	1.1
7/1/79	0.5
8/1/79	1.1
9/1/79	0.5
10/1/79	Recharge
11/1/79	11.4
12/1/79	6.0
1/4/80	11.2
2/1/80	13.6

CANTON CREEK

10/3/78	Recharge
11/1/78	2.5
1/31/79	23.8
3/9/79	24.1
4/10/79	3.2
5/7/79	4.5
6/1/79	1.8
7/3/79	2.7
8/1/79	1.1
9/5/79	2.7
10/1/79	0.9

CARNATION 15E

8/16/78	Recharge
9/5/78	4.69
10/3/78	9.37
11/4/78	6.61
5/5/79	65.39
6/1/79	4.68
7/1/79	0.86
8/7/79	4.47
8/7/79	Recharge
9/1/79	0.64
10/2/79	3.84
11/1/79	7.89
12/4/79	9.37
1/3/80	27.90

CEDAR FALLS 4SE

8/17/78	Recharge
9/5/78	6.60
10/2/78	7.24
11/2/78	3.41
4/30/79	66.03
6/1/79	4.48
7/2/79	2.98
7/31/79	1.92
7/31/79	Recharge
9/4/79	2.56
10/1/79	1.06
11/2/79	7.88
12/6/79	7.24
1/3/80	17.47

CEDAR FALLS 5SE

8/11/78	Recharge
9/6/78	4.26
10/2/78	6.18
11/3/78	2.98
4/30/79	41.75
6/4/79	1.59
7/2/79	2.98
8/3/79	1.06
8/3/79	Recharge
9/5/79	2.13
10/1/79	0.42
11/2/79	5.76
12/3/79	2.98
1/3/80	15.97

CEDAR FALLS 7SE

8/15/78	Recharge
9/5/78	4.05
10/2/78	7.03
11/2/78	2.76
5/1/79	59.01
6/1/79	3.19
7/2/79	3.20
8/3/79	0.85
8/3/79	Recharge
9/4/79	3.41
10/1/79	1.28
11/2/79	7.25
12/3/79	5.32
1/3/80	21.30

CEDAR FALLS 7SSE

8/15/78	Recharge
9/5/78	1.49
10/2/78	6.39
11/2/78	3.20
4/30/79	69.43
6/1/79	4.05
7/2/79	3.20
8/3/79	1.06
9/4/79	3.40
10/1/79	1.07
11/2/79	7.88
12/6/79	8.31
1/3/80	19.81

CEDAR FALLS 8SE

8/11/78	Recharge
9/5/78	4.68
10/2/78	6.17
11/2/78	1.28
4/30/79	47.71
6/4/79	2.56
7/2/79	2.13
7/31/79	1.06
7/31/79	Recharge
9/4/79	2.55
10/1/79	0.64
11/2/79	6.18
12/3/79	3.83
1/3/80	17.04

PRECIPITATION STORAGE GAGES (Continued)

CEDAR FALLS 10SE

8/15/78	Recharge
9/5/78	3.40
10/2/78	7.46
11/2/78	3.19
4/30/78	71.14
6/1/79	3.40
7/2/79	4.69
8/3/79	1.27
8/3/79	Recharge
9/4/79	1.07
10/1/79	1.28
11/2/79	8.30
12/6/79	9.59
1/3/80	21.30

CONSULTANT CREEK

8/16/78	Recharge
9/5/78	4.50
10/3/78	9.22
11/4/78	9.44
5/5/79	80.33
6/1/79	-3.82
7/1/79	2.03
8/7/79	4.05
8/7/79	Recharge
9/1/79	1.34
10/2/79	4.28
11/1/79	7.88
12/5/79	11.02
1/3/80	10.58

DRY CREEK

8/17/78	Recharge
9/5/78	4.72
10/3/78	9.22
11/4/78	11.02
5/6/79	70.88
6/1/79	5.18
7/1/79	1.80
8/8/79	4.94
8/8/79	Recharge
9/1/79	1.35
10/2/79	4.72
11/1/79	8.10
12/4/79	8.10
1/3/80	24.52

FISH LAKE

8/10/78	Recharge
6/27/79	43.25

FROZEN MOUNTAIN

8/17/78	Recharge
9/5/78	2.15
10/5/78	12.93
11/4/78	9.22
5/6/79	76.28
6/1/79	3.60
7/1/79	2.02
8/8/79	Empty
8/8/79	Recharge
9/1/79	0.45
10/2/79	4.51
11/1/79	9.67
12/5/79	11.48
1/4/80	31.50

GLACIER CREEK

10/5/78	Recharge
5/31/79	63.20
9/12/79	12.05

GRASS MTN. #1

10/3/78	Recharge
11/1/79	2.9
12/13/79	22.3
1/31/79	14.2
3/9/79	24.8
4/2/79	2.2
5/3/79	5.6
6/1/79	2.0
7/3/79	2.7
7/31/79	1.6
9/5/79	2.9
10/1/79	1.1

GREEN RIVER II

10/5/78	Recharge
11/27/78	7.2
4/9/79	29.0
5/2/79	2.7
5/29/79	1.1
7/2/79	1.4
8/3/79	0.9
10/1/79	2.9

LESTER 5NNE

8/17/78	Recharge
9/6/78	2.77
10/2/78	5.96
11/2/78	1.49
6/1/79	62.84
7/31/79	4.68
7/31/79	Recharge
9/4/79	3.41
10/2/79	1.07
11/2/79	5.33

LESTER 7NNW

8/14/78	Recharge
9/6/79	4.90
10/3/79	4.68
11/2/78	2.35
6/4/79	62.62
7/2/79	2.56
8/1/79	1.27
8/1/79	Recharge
9/4/79	3.62
10/2/79	1.50
11/2/79	5.54

LESTER 8NNW

8/14/78	Recharge
9/6/78	3.20
10/3/78	5.11
11/2/78	1.91
6/4/79	58.37
7/2/79	2.76
8/1/79	0.85
8/1/79	Recharge
9/4/79	3.19
10/2/79	1.71
11/2/79	5.54
12/3/79	5.75
1/3/79	21.72

LESTER 8N

8/14/78	Recharge
9/6/78	3.83
10/2/78	6.82
11/2/78	1.70
6/4/79	63.05
7/2/79	3.20
8/1/79	1.06
8/1/79	Recharge
9/5/79	2.77
10/2/79	1.71
11/2/79	5.32

LESTER 10NNW

8/17/78	Recharge
9/5/78	5.11
10/3/78	7.24
11/3/78	3.84
4/30/79	59.21
6/1/79	2.98
7/2/79	3.20
7/31/79	1.06
7/31/79	Recharge
9/4/79	4.04
10/1/79	0.86
11/2/79	2.98
12/3/79	9.37
1/3/80	22.36

PRECIPITATION STORAGE GAGES (Continued)

LESTER 11NW

8/11/78	Recharge
9/6/78	4.90
10/2/78	6.39
11/3/78	2.77
4/30/79	53.67
6/4/79	2.56
7/2/79	2.34
8/1/79	1.49
8/1/79	Recharge
9/5/79	2.77
10/1/79	1.28
11/2/79	5.54
12/3/79	5.12
1/3/80	19.59

LYMAN LAKE

10/1/79	Recharge
11/1/79	6.4
12/1/79	2.6
1/1/80	16.2
2/1/80	9.2

MIDDLE FORK NOOKSACK

10/4/78	Recharge
6/6/79	62.65
9/13/79	9.85

MIDDLE FORK TAYLOR

8/4/78	Recharge
9/5/78	2.55
10/1/78	10.23
11/1/78	1.70
5/1/79	57.08
6/3/79	3.62
7/2/79	3.84
8/10/79	1.92
8/10/79	Recharge
9/4/79	2.13
10/1/79	2.34
11/5/79	9.38
12/1/79	4.90
1/3/80	20.02

MORSE LAKE

10/1/78	Recharge
12/1/78	9.0
1/1/79	8.4
2/1/79	3.5
3/1/79	9.1
4/1/79	13.5
5/1/79	5.3
6/1/79	2.9
7/1/79	1.4

MORSE LAKE (Cont.)

8/1/79	1.5
9/1/79	2.3
10/1/79	Recharge
11/1/79	8.5
12/1/79	5.2
1/4/80	20.9
2/1/80	7.0

MT. INDEX

8/17/78	Recharge
9/5/78	5.62
10/3/78	9.90
11/4/78	9.22
5/6/79	70.43
6/1/79	11.25
7/1/79	2.25
8/8/79	5.62
8/8/79	Recharge
9/1/79	0
10/2/79	5.18
11/1/79	8.78
12/5/79	9.68
1/3/80	28.12

NORTH FORK TAYLOR

8/4/78	Recharge
9/5/78	4.48
10/1/78	8.52
11/4/78	7.89
5/1/79	43.02
6/3/79	4.05
7/2/79	3.41
8/10/79	1.06
8/10/79	Recharge
9/1/79	2.77
10/1/79	2.77
11/5/79	6.17
12/1/79	4.90

PARK CREEK RIDGE

10/1/78	Recharge
1/1/79	17.1
3/1/79	19.6
4/1/79	0.4
5/1/79	2.7
6/1/79	1.2
7/1/79	1.5
8/1/79	1.2
9/1/79	0.7
10/1/79	Recharge
11/1/79	4.8
12/1/79	2.2
1/4/80	23.0
2/1/80	8.5

PORT ANGELES 11S

8/16/78	Recharge
8/20/79	37.65

RUSTY CREEK

9/29/78	Recharge
10/30/78	0.20
11/28/78	1.15
12/29/78	0.55
1/31/79	0.70
2/27/79	1.90
3/30/79	0.70
4/30/79	0
5/29/79	1.75
6/28/79	0.95
7/26/79	0.45
8/27/79	1.30
9/27/79	1.20
10/26/79	2.50
11/28/79	2.50
12/27/79	3.90
1/29/80	4.10

SALMON MEADOWS

8/29/78	Recharge
9/28/78	3.25
10/30/78	0.50
11/29/78	1.00
12/29/78	0.75
1/30/79	1.0
2/26/79	3.5
3/28/79	0.5
4/30/79	0
5/29/79	3.5
6/28/79	2.25
7/26/79	0.87
8/27/79	1.13
9/27/79	2.25
10/26/79	-
11/28/79	2.25
12/27/79	4.50
1/28/80	2.38

SHERMAN CREEK PASS

9/28/78	Recharge
9/27/79	9.25

SPRUCE SPRINGS

10/1/78	Recharge
10/1/79	37.50

PRECIPITATION STORAGE GAGES (Continued)

SKYKOMISH 7½W

8/21/78	Recharge
9/9/78	4.90
9/30/78	10.65
6/2/79	105.22
7/1/79	4.26
8/9/79	6.17
8/9/79	Recharge
9/1/79	0.42
10/2/79	4.05
11/1/79	9.59

SURPRISE LAKES

10/1/79	Recharge
11/1/79	4.5
12/1/79	6.3
1/4/80	20.4
2/1/80	14.5

SWAUK PASS

11/27/79	Recharge
12/26/79	7.87
1/24/80	2.25

TAYLOR CREEK

8/4/78	Recharge
9/5/78	3.83
10/1/78	-18.74
11/1/78	28.12
5/1/79	42.38
6/3/79	0.64
7/2/79	4.90
7/30/79	1.92
7/30/79	Recharge
9/4/79	2.13
10/1/79	1.71
11/5/79	6.39
12/1/79	4.47
1/3/80	15.12

TROUGH # 2

10/1/78	Recharge
11/1/78	0.5
12/1/78	2.5
1/1/79	1.5
2/1/79	1.6
3/1/79	4.6
4/1/79	1.3
5/1/79	1.1
6/1/79	-0.2
7/1/79	-0.1

TROUGH # 2 (Cont.)

8/1/79	0.3
9/1/79	Recharge
11/1/79	2.3
12/1/79	3.3
1/4/80	3.9
2/1/80	4.8

TRUCK HILL

8/18/78	Recharge
11/4/78	24.75
5/6/79	36.22
6/1/79	37.13
7/1/79	1.35
8/7/79	5.62
Discontinued	

UPPER WHEELER

5/30/79	-0.8
6/30/79	-6.7
7/3-/79	7.2
9/1/79	0.7
9/30/79	-0.3
12/1/79	2.3
1/5/80	5.3
1/5/80	Recharge

YELLOW CREEK

8/18/79	Recharge
9/5/78	3.60
10/3/78	6.74
11/4/78	6.76
5/5/79	51.30
6/1/79	25.20
Charge Lost	
11/1/79	Recharge
12/4/79	7.88
1/3/80	17.10

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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